

Dr. Duke's Phytochemical and Ethnobotanical Databases

Chemicals found in *Carum carvi*

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
2	(+)-CARVONE	Seed	9000.0	55760.0		--
2	(+)-CARVONE	Seed Essent. Oil				--
2	(+)-CARVONE	Plant				--
0	(+)-CIS-CARVEOL	Seed Essent. Oil				--
0	(+)-DIHYDROCARVEOL	Essential Oil		600.0		--
0	(+)-LIMONENE	Seed Essent. Oil				--
0	(+)-TRANS-CARVEOL	Seed Essent. Oil				--
0	(-)-CARVONE	Seed Essent. Oil				--
0	(-)-CIS-CARVEOL	Seed Essent. Oil				--
0	(-)-DIHYDROCARVONE	Essential Oil		10.0		--
0	(-)-LIMONENE	Seed Essent. Oil				--
0	(-)-TRANS-CARVEOL	Seed Essent. Oil				--
0	(E)-BETA-OCIMENE	Seed				--
0	(E)-DIHYDROCARVONE	Seed				--
0	(E)-P-MENTHA-2,8-DIEN-1-OL	Seed				--
0	(Z)-BETA-OCIMENE	Seed				--
0	(Z)-DIHYDROCARVONE	Seed				--
0	(Z)-P-MENTHA-2,8-DIEN-1-OL	Seed				--
67	1,8-CINEOLE	Seed		0.1	-0.7134832654336017	--
0	1-P-MENTHENE-6-AN-OL	Seed	50.0	155.0		--
0	1-P-MENTHENE-8,9-DIOL	Seed	40.0	125.0		--
0	2,4-HEXADIENAL	Seed				--
0	2,8-P-MENTHADIENE-1-OL	Seed	120.0	365.0		--
0	2,8-P-MENTHADIENE-6-OL	Seed	110.0	330.0		--
0	2-METHYL-BENZALDEHYDE	Seed				--
0	4-METHYL-BENZALDEHYDE	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
10	5-METHOXY-PSORALEN	Seed				--
10	5-METHOXY-PSORALEN	Plant				Wealth of India.
0	8-CIS-MENTHENE	Seed		0.1		--
21	8-METHOXY-PSORALEN	Plant				Wealth of India.
0	8-P-MENTHENE-1,2-DIOL	Seed	30.0	85.0		--
0	8-P-MENTHENE-1,2-DIOL-ISOMER	Seed	30.0	85.0		--
0	8-P-MENTHENE-7-AL	Seed	30.0	85.0		--
0	ABSCISIC-ACID	Seed		0.12	-0.49402184451606584	--
6	ACETALDEHYDE	Fruit				--
6	ACETALDEHYDE	Seed				--
3	ALANINE	Seed	9140.0	10150.0	-0.0013229586167773184	Revised USDA data received 1993.
15	ALPHA-LINOLENIC-ACID	Seed	1500.0	1664.0	-0.29806400798854177	USDA's Ag Handbook 8 and sequelae)
15	ALPHA-LINOLENIC-ACID	Fruit	1500.0	1664.0	-0.39890612938011816	--
11	ALPHA-PHELLANDRENE	Seed	3.0	1230.0	-0.5312072630899651	--
11	ALPHA-PHELLANDRENE	Fruit	3.0	6.0	-0.5736201696885931	--
28	ALPHA-PINENE	Seed	4.0	540.0	-0.4451814085289362	--
28	ALPHA-PINENE	Plant		20.0	-0.46732168198180957	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
28	ALPHA-PINENE	Fruit	42.0	540.0	-0.577800039343025	--
13	ALPHA-TERPINENE	Seed	6.0	12.0	-0.5062619617372923	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
23	ALPHA-TERPINEOL	Seed				--
0	ALPHA-THUJENE	Seed				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	ARABINOSE	Seed				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
14	ARGININE	Seed	12520.0	13900.0	-0.45478768617160453	Revised USDA data received 1993.
0	ASH	Fruit	56460.0	67620.0	0.28371563599880156	--
0	ASH	Seed	55000.0	67620.0	0.5937289975821403	--
3	ASPARTIC-ACID	Seed	20840.0	23130.0	0.048029804288976026	Revised USDA data received 1993.
7	ASTRAGALIN	Seed				--
0	BENZOIC-ACID-4-O-BETA-D-GLUCOSIDE	Seed		37.0	-1.0	--
53	BETA-CAROTENE	Seed		2.0	-0.30429005311638807	--
53	BETA-CAROTENE	Fruit		2.0	-0.14693466516508752	--
0	BETA-CARYOPHYLLENE	Seed	20.0	1320.0	0.9233136232225039	--
5	BETA-ELEMENE	Seed Essent. Oil				--
5	BETA-ELEMENE	Essential Oil				--
0	BETA-FENCHENE	Seed				--
2	BETA-MYRCENE	Seed				--
3	BETA-PHELLANDRENE	Seed				Wealth of India.
13	BETA-PINENE	Plant		20.0	-0.4138919250596763	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
13	BETA-PINENE	Fruit	270.0	600.0	-0.2786206877223514	--
13	BETA-PINENE	Seed	40.0	600.0	-0.6190200878086086	--
47	BETA-SITOSTEROL	Root				--
47	BETA-SITOSTEROL	Seed		420.0	-0.4698064371659858	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	CADINENE	Plant	3720.0	29760.0	1.4141020257548391	--
102	CAFFEIC-ACID	Seed		2840.0	1.9446682932160153	--
28	CALCIUM	Fruit	6426.0	8160.0	0.993126554897215	--
28	CALCIUM	Seed	1530.0	8160.0	0.7371261230888665	--
4	CALCIUM-OXALATE	Seed				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
4	CALCIUM-OXALATE	Fruit				--
2	CAMPESTEROL	Seed		30.0	-0.5601817141925177	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
9	CAMPHENE	Plant		30.0	-0.5545069597862352	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
9	CAMPHENE	Fruit	1.0	900.0	0.021412618138643334	--
9	CAMPHENE	Seed	1.0	900.0	1.5222256000900138	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
3	CAPRIC-ACID	Seed	100.0	110.0	-0.5239374828451797	USDA's Ag Handbook 8 and sequela)
3	CAPRIC-ACID	Fruit	100.0	110.0	-0.6828803041071304	--
0	CARBOHYDRATES	Seed	300000.0	554000.0	0.12160149368264386	--
0	CARBOHYDRATES	Fruit	499000.0	554000.0	-1.2239479546663645	--
37	CARVACROL	Seed Essent. Oil		595300.0		--
37	CARVACROL	Plant				--
37	CARVACROL	Seed				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	CARVEOL	Essential Oil				--
1	CARVEOL	Seed	120.0	3240.0	1.0	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
1	CARVEOL	Plant		430.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
19	CARVONE	Plant		3120.0	0.11898806640618137	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
19	CARVONE	Fruit	9000.0	44310.0	1.99999975413892	--
19	CARVONE	Seed	10880.0	32640.0	0.5757430989637712	--
19	CARVONE	Seed Essent. Oil	595300.0	900000.0	1.38528277461378	--
19	CARVONE	Essential Oil	264000.0	580000.0	1.456771501873754	--
0	CARVONE-EPOXIDE(8,9)	Seed	25.0	80.0		--
0	CARVYL-ACETATE	Seed	45.0	455.0		--
0	CARVYL-ACETATE	Plant		55.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
24	CHROMIUM	Fruit		15.5	1.6694676930187362	--
24	CHROMIUM	Seed		15.5	1.5756788450079844	--
0	CIS-2-CARVEOL	Seed	75.0	230.0		--
0	CIS-BETA-OCIMENE	Seed				--
0	CIS-CARVEOL	Seed	21.0	42.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	CIS-CARVEOL	Flower Essent. Oil				--
0	CIS-DIHYDROCARVONE	Seed	15.0	50.0	-0.70302870575708	--
0	CIS-LIMONENE-DIEPOXIDE	Seed	55.0	160.0		--
0	CIS-LIMONENE-EPOXIDE	Seed	300.0	900.0		--
0	CIS-P-MENTH-8-EN-1-OL	Plant				--
15	CITRONELLOL	Seed		0.1		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	COBALT	Seed		1.0	-0.16257255524625883	--
2	COBALT	Fruit		1.0	-0.4140559583804006	--
12	COPPER	Fruit	9.0	13.8	0.07635430476669072	--
12	COPPER	Seed	9.0	18.0	0.2889427800893567	--
10	CUMINALDEHYDE	Essential Oil		370000.0	1.0	--
10	CUMINALDEHYDE	Plant				Jeffery B. Harborne and H. Baxter, eds. 1983. Phytochemical Dictionary. A Handbook of Bioactive Compounds from Plants. Taylor & Frost, London. 791 pp.
2	CYSTINE	Seed	3290.0	3650.0	0.34786844092544134	Revised USDA data received 1993.
0	D-DIHYDROPINOL	Seed				--
0	D-PERILLALDEHYDE	Fruit				--
0	D-PERILLALDEHYDE	Seed				List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
1	DECAN-1-AL	Seed				--
0	DECANAL	Seed				--
8	DELTA-3-CARENE	Plant		100.0	-0.29930598714761825	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
8	DELTA-3-CARENE	Seed	90.0	180.0	-0.16222142113076254	--
8	DELTA-3-CARENE	Fruit	90.0	180.0	-0.31208082478300797	--
0	DELTA-3-CARENE-EPOXIDE	Seed	5.0	20.0		--
2	DIACETYL	Seed				--
2	DIACETYL	Fruit				--
2	DIHYDROCARVEOL	Plant		950.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	DIHYDROCARVEOL	Fruit	360.0	720.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
2	DIHYDROCARVEOL	Seed	200.0	780.0		--
2	DIHYDROCARVEOL	Essential Oil				--
0	DIHYDROCARVONE	Fruit	240.0	1500.0		--
0	DIHYDROCARVONE	Essential Oil		5000.0	-0.5088490622892315	--
0	DIHYDROCARVONE	Seed	240.0	1890.0	1.222391887709424	--
0	DIHYDROCARVONE	Plant		230.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
1	DIHYDROCARVYL-ACETATE	Seed	45.0	455.0		--
1	DIHYDROCARVYL-ACETATE	Plant		55.0	-0.6178866361535852	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
1	DIHYDROCARVYL-ACETATE	Fruit	45.0	90.0		--
0	DIHYDROPINOL	Essential Oil		2800.0		--
0	EICOSENOIC-ACID	Seed	1000.0	1800.0	-1.3117937762239429	--
0	EO	Plant		10000.0	0.019853678703787233	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	EO	Fruit	30000.0	70000.0	0.54062890380803	--
0	EO	Seed	20000.0	82000.0	0.4861364448600147	--
13	FALCARINDIOL	Root		290.0	1.3544986584188263	--
0	FALCARINDION	Root				--
0	FALCARINOL-ONE	Root				--
3	FALCARINONE	Plant				Duke, J. A. Writeups or information summaries on approximately 2,000 economic plants, USDA, ARS, Beltsville, MD 20705.
0	FAT	Seed	100000.0	180000.0	-0.44976698613804794	--
0	FAT	Fruit	127000.0	176826.0	0.7093306748827288	--
15	FIBER	Fruit	112730.0	155640.0	0.13176741912032305	--
15	FIBER	Seed	112730.0	223000.0	0.6966094834523356	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	FUCOSE	Seed				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
6	FURFURAL	Fruit				--
6	FURFURAL	Seed				--
1	GALACTOSE	Seed				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	GAMMA-ELEMENE	Seed				--
11	GAMMA-TERPINENE	Seed	12.0	14160.0	1.7263032899871258	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
11	GAMMA-TERPINENE	Plant	270.0	2215.0	0.3668556912256766	--
11	GAMMA-TERPINENE	Fruit	12.0	14160.0	1.9544259127217853	--
13	GERANIAL	Seed				--
2	GERMACRENE-D	Seed Essent. Oil				--
2	GERMACRENE-D	Essential Oil				--
7	GLUCOSE	Seed				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
8	GLUTAMIC-ACID	Seed	31690.0	35175.0	-0.2758530020526007	Revised USDA data received 1993.
12	GLYCINE	Seed	13220.0	14675.0	0.5382536999822551	Revised USDA data received 1993.
12	HERNIARIN	Plant				Wealth of India.



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	HEXA-2,4-DIEN-1-AL	Seed				--
0	HEXADECENIC-ACID	Seed		1000.0		Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
7	HISTIDINE	Seed	5500.0	6105.0	-0.005073065220825094	Revised USDA data received 1993.
0	HYDROXYCOUMARINS	Seed				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
30	HYPEROSIDE	Seed				--
6	IRON	Seed	123.0	1200.0	4.874936682884126	--
6	IRON	Fruit	123.0	286.0	0.6069967345672661	--
0	ISO-DIHYDROCARVEOL	Seed				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	ISO-DIHYDROCARVEOL	Fruit				--
0	ISODIHYDROCARVONE	Fruit				--
0	ISODIHYDROCARVONE	Seed				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
3	ISOLEUCINE	Seed	8260.0	9170.0	-0.16863241397137768	Revised USDA data received 1993.
22	ISOQUERCITRIN	Shoot				--
22	ISOQUERCITRIN	Seed				--
1	ISORHAMNETIN-3-GALACTOSIDE	Seed				Wealth of India.
1	ISORHAMNETIN-3-GLUCOSIDE	Seed				Wealth of India.
75	KAEMPFEROL	Seed				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
75	KAEMPFEROL	Flower				--
75	KAEMPFEROL	Leaf				--
0	KAEMPFEROL-3-O-GALACTOSIDE	Seed				Wealth of India.
0	KAEMPFEROL-3-O-GLUCOSIDE	Seed				Wealth of India.
0	KILOCALORIES	Seed	3330.0	3700.0	-0.9069114205711409	Revised USDA data received 1993.
7	LAURIC-ACID	Seed	100.0	110.0	-0.511344659660987	USDA's Ag Handbook 8 and sequelae)
7	LAURIC-ACID	Fruit	100.0	110.0	-0.44416811720185917	--
2	LEUCINE	Seed	12180.0	13520.0	-0.3408978107463804	Revised USDA data received 1993.
60	LIMONENE	Fruit	7860.0	30180.0	3.5781164025182557	--
60	LIMONENE	Seed	3000.0	42000.0	2.245951109203175	--
60	LIMONENE	Seed Essent. Oil		381600.0	0.7234037553203063	--
60	LIMONENE	Essential Oil	250000.0	500000.0	2.140871457019611	--
60	LIMONENE	Plant		420.0	-0.22767736339342154	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	LIMONENE-4-OL	Seed	20.0	55.0		--
0	LINALOL	Fruit	48.0	96.0	-0.6231721368623974	--
53	LINALOOL	Seed	5.0	96.0	-0.464767259448611	--
27	LINOLEIC-ACID	Fruit	20300.0	46714.0	0.3036638054156712	--
27	LINOLEIC-ACID	Seed	19600.0	46714.0	-0.5175834259469172	--
0	LINOLENIC-ACID	Seed	600.0	4140.0	-0.5075880129054059	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
4	LYSINE	Seed	10310.0	11445.0	-0.08853511037990262	Revised USDA data received 1993.
65	MAGNESIUM	Seed	2070.0	2950.0	0.0015393251037586135	--
65	MAGNESIUM	Fruit	2580.0	2863.0	0.3395434445319955	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
14	MANGANESE	Seed	13.0	34.0	-0.24317239745397942	--
14	MANGANESE	Fruit	13.0	34.0	-0.17934592524588852	--
0	MANNANS	Seed				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
3	MANNOSE	Seed				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
2	METHANOL	Seed				--
2	METHANOL	Fruit				--
15	METHIONINE	Seed	3610.0	4005.0	-0.07999578248445874	Revised USDA data received 1993.
0	METHYL-3,7-DIMETHYL-2,6-OCTADIENOATE	Seed				--
13	MUFA	Seed	71250.0	79085.0	-0.21948429390500326	Revised USDA data received 1993.
22	MYRCENE	Seed	12.0	1560.0	-0.1814418669231581	--
22	MYRCENE	Plant		150.0	-0.3113042330188643	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
22	MYRCENE	Fruit	180.0	1560.0	-0.14096760282697604	--
6	MYRISTIC-ACID	Fruit	400.0	444.0	-0.24819764617872128	--
6	MYRISTIC-ACID	Seed	400.0	444.0	-0.29019087360930124	USDA's Ag Handbook 8 and sequelae)
31	MYRISTICIN	Seed	60.0	985.0	-0.9148647060412254	--
31	MYRISTICIN	Plant		120.0	-1.0	Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
31	MYRISTICIN	Fruit	60.0	420.0		--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
5	N-NONANAL	Fruit	6.0	12.0		--
5	N-NONANAL	Seed	6.0	12.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	N-OCTANAL	Fruit	24.0	48.0		--
2	N-OCTANAL	Seed	24.0	48.0		Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	NEODIHYDROCARVEOL	Fruit				--
0	NEODIHYDROCARVEOL	Seed				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	NEOISODIHYDROCARVEOL	Seed				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
0	NEOISODIHYDROCARVEOL	Fruit				--
39	NIACIN	Fruit	21.0	56.0	-0.0628056202874991	--
39	NIACIN	Seed	21.0	56.0	0.3925544644928447	USDA's Ag Handbook 8 and sequelae)
3	NICKEL	Seed	7.0	10.0	1.003733061132988	--
3	NICKEL	Fruit		7.0	1.349383302912262	--
18	OLEIC-ACID	Seed	29000.0	241000.0	1.0020612909785875	--
18	OLEIC-ACID	Fruit	54400.0	95648.0	0.2564460151509538	--
0	P-1(7),8-MENTHADIENE-6-OL	Seed	10.0	25.0		--
25	P-COUMARIC-ACID	Seed		86.0	-0.2878871950232701	--
16	P-CYMENE	Seed	0.1	1320.0	-0.39090586317354775	--
0	P-MENTHA-2,8-DIEN-1-OL	Seed				--
13	PALMITIC-ACID	Fruit	2000.0	6658.0	-0.2618846307910205	--
13	PALMITIC-ACID	Seed	2000.0	9000.0	-0.5139018470842157	--
2	PALMITOLEIC-ACID	Fruit	900.0	999.0	-0.16284284724499656	--
2	PALMITOLEIC-ACID	Seed	900.0	999.0	-0.27448704739952007	USDA's Ag Handbook 8 and sequelae)

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
11	PERILLALDEHYDE	Seed	20.0	60.0	-0.4953847300732596	--
14	PERILLYL-ALCOHOL	Essential Oil		800.0		--
14	PERILLYL-ALCOHOL	Plant	160.0	1310.0	-1.0	--
0	PETROSELINIC-ACID	Seed	40000.0	354000.0	-0.8033510875816932	--
0	PETROSELINIC-ACID	Seed Oil				--
0	PETROSELINIC-ACID	Plant		33020.0		--
7	PHENYLALANINE	Seed	8670.0	9625.0	-0.22873636959027158	Revised USDA data received 1993.
4	PHOSPHORUS	Fruit	5680.0	6302.0	0.9373426112560593	--
4	PHOSPHORUS	Seed	5650.0	6580.0	0.3241524123754052	--
0	PHYTATE	Seed	10190.0	10900.0	-0.19448774169058122	--
0	PHYTOFLUENE	Plant				Wealth of India.
2	PHYTOSTEROLS	Fruit		760.0	-0.23881522589243726	--
2	PHYTOSTEROLS	Seed		760.0	-0.4421772689232783	USDA's Ag Handbook 8 and sequelae)
0	POLYACETYLENES	Root				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
0	POLYSACCHARIDES	Seed		130000.0	-0.6376825261439872	Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
14	POTASSIUM	Seed	10810.0	15670.0	0.2726200242002285	--
14	POTASSIUM	Fruit	12902.0	15665.0	-0.19919899891978007	--
0	PROLINE	Seed	9170.0	10180.0	-0.2270794734050652	Revised USDA data received 1993.
0	PROTEIN	Seed	190521.0	400000.0	1.478470052739822	--
0	PROTEIN	Fruit	190521.0	220000.0	1.4813201219223062	--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
4	PUFA	Seed	32720.0	36320.0	-0.5293414540891105	Revised USDA data received 1993.
176	QUERCETIN	Seed				--
176	QUERCETIN	Fruit				--
176	QUERCETIN	Flower				--
176	QUERCETIN	Leaf				--
2	QUERCETIN-3'-GLUCOSIDE	Seed				Wealth of India.
0	QUERCETIN-3-O-GALACTOSIDE	Seed				Wealth of India.
0	QUERCETIN-3-GLUCURONIDE	Seed				Leung, A. Y. and Foster, S. 1995. Encyclopedia of Common Natural Ingredients 2nd Ed. John Wiley & Sons, New York. 649 pp.
2	QUERCETIN-3-O-BETA-D-GLUCOSIDE	Seed				--
2	QUERCETIN-3-O-BETA-D-GLUCURONIDE	Seed				--
0	QUERCETIN-3-O-CAFFEYL-GLUCOSIDE	Seed				--
0	RHAMNOSE	Seed				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
15	RIBOFLAVIN	Seed	3.0	4.0	0.18234587940570884	USDA's Ag Handbook 8 and sequelae)
15	RIBOFLAVIN	Fruit	3.0	4.0	-0.21615825716438572	--
5	SABINENE	Seed	4.0	60.0	-0.43864204594661615	--
5	SABINENE	Fruit	30.0	60.0	-0.5167574947017265	--
7	SALICYLATES	Seed	28.0	30.0	-0.17921879008985586	--
44	SCOPOLETIN	Plant				Wealth of India.
44	SCOPOLETIN	Root				--
1	SERINE	Seed	9460.0	10500.0	-0.014241088185932402	Revised USDA data received 1993.
0	SFA	Seed	6200.0	6880.0	-0.5108368608268686	Revised USDA data received 1993.

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
1	SODIUM	Fruit	149.0	212.0	-0.16384706454945608	--
1	SODIUM	Seed	149.0	340.0	-0.17599424618728202	--
5	STARCH	Fruit		45000.0	-0.3878494415116057	--
5	STARCH	Seed		45000.0	-1.0737470069854615	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
8	STEARIC-ACID	Plant	1100.0	1221.0	-0.31662981705011717	--
8	STEARIC-ACID	Seed	1000.0	1800.0	-0.5263361525324093	--
12	STIGMASTEROL	Seed		310.0	-0.13634492946832524	Spiller, G. A. 1996 (Spiller, G. A. Ed. 1996. CRC Handbook of Lipids in Human Nutrition. CRC Press. Boca Raton, FL. 233 pp.)
0	SUGARS	Fruit		30000.0	-0.7603640515097223	--
0	SUGARS	Seed		30000.0	-0.6664407950618276	List, P.H. and Horhammer, L., Hager's Handbuch der Pharmazeutischen Praxis, Vols. 2-6, Springer-Verlag, Berlin, 1969-1979.
35	TANNIN	Plant				--
23	TERPINEN-4-OL	Plant	120.0	985.0	0.14761831910973383	--
9	TERPINOLENE	Seed				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
9	TERPINOLENE	Fruit				--
31	THIAMIN	Seed	3.0	4.0	-0.6165338688916807	USDA's Ag Handbook 8 and sequelae)
31	THIAMIN	Fruit	3.0	4.0	-0.17059389090821606	--
4	THREONINE	Seed	7560.0	8390.0	0.056493706448137275	Revised USDA data received 1993.
17	THUJONE	Seed				Williamson, E. M. and Evans, F. J., Potter's New Cyclopaedia of Botanical Drugs and Preparations, Revised Ed., Saffron Walden, the C. W. Daniel Co., Ltd., Essex UK, 362 pp, 1988, reprint 1989.
17	THUJONE	Fruit				--

Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Reference Citation
0	TRANS-1-CARVEOL	Seed	230.0	690.0		--
0	TRANS-BETA-OCIMENE	Seed				--
1	TRANS-CARVEOL	Flower Essent. Oil				--
1	TRANS-CARVEOL	Seed	105.0	210.0	-1.0	--
0	TRANS-CARYOPHYLLENE-OXIDE	Seed	5.0	20.0		--
0	TRANS-DIHYDROCARVONE	Fruit	177.0	354.0	1.0	--
0	TRANS-DIHYDROCARVONE	Seed	15.0	354.0	-1.0	--
0	TRANS-LIMONENE-DIEPOXIDE	Seed	45.0	140.0		--
0	TRANS-LIMONENE-EPOXIDE	Seed	200.0	600.0		--
0	TRICYCLENE	Fruit				--
0	TRICYCLENE	Seed				Lawrence, B.M., Essential Oils 1976-1977, Essential Oils 1978, Essential Oils 1979-1980.
2	TRIFOLIN	Seed				--
29	TRYPTOPHAN	Seed	2440.0	2710.0	-0.20976729388732002	Revised USDA data received 1993.
8	TYROSINE	Seed	6420.0	7125.0	-0.14274154462014257	Revised USDA data received 1993.
22	UMBELLIFERONE	Root				--
22	UMBELLIFERONE	Plant				Wealth of India.
3	VALINE	Seed	10370.0	11510.0	-0.061769047027664975	Revised USDA data received 1993.
0	WATER	Seed	91880.0	155000.0	-0.27862372656365736	--
43	XANTHOTOXIN	Seed				--
3	XYLOSE	Seed				Hansel, R., Keller, K., Rimpler, H., and Schneider, G. eds. 1992. Hager's Handbuch der Pharmazeutischen Praxis, Drogen (A-D), 1209 pp., 1993 (E-O), 970 pp., 1994 (P-Z), 1196 pp. Springer-Verlag, Berlin.
77	ZINC	Fruit	47.0	61.0	0.9235898750204936	--



Activities Count	Chemical	Plant Part	Low PPM	High PPM	StdDev	Refernce Citation
77	ZINC	Seed	47.0	66.0	0.592445203168114	--